Client: Fiberight Limited
Address: Unit 1 Westfield Industrial Park, Waunarlwydd, Swansea, SA5 4SF

Fiberight Limited, Unit 1 Westfield Industrial Estate, Waunarlwydd, Swansea, SA5 4SF

Application for a Bespoke Environmental Permit

Dust and Emissions Management Plan

Our Reference: Fiberight-Waunarlwydd-RP05-Final, Rev C (DEMP) August 2023

Waste And Industry Compliance Ltd

ENVIRONMENTAL CONSULTANCY SERVICES

☎	07748 363 125
✉	info@wasteandindustry.co.uk
🖱	www.wasteandindustry.co.uk

Fiberight-Waunarlwydd-RP05-Final, Rev C (DEMP)

Version & Status	Date Produced	Prepared, Checked and Authorised by:
Draft v1.0	04/07/2022	Waste and Industry Compliance Ltd.
Draft v1.1	15/07/2022	Waste and Industry Compliance Ltd.
Final	11/08/2022	Waste and Industry Compliance Ltd.
Final, Rev A	10/02/2023	Waste and Industry Compliance Ltd.
Final, Rev B	21/05/2023	Waste and Industry Compliance Ltd.
Final, Rev C	16/08/2023	Waste and Industry Compliance Ltd.

Waste and Industry Compliance Limited
Haling Dene Centre,
Cannock Road,
Penkridge,
Staffordshire, ST19 5DT

Telephone 07748 363 125
info@wasteandindustry.co.uk

CONTENTS

DRAWINGS

Drawing No: Westfield-Waunarlwydd-DW01	Site Location and Layout	1:1,500 @ A3
Drawing No: Westfield-Waunarlwydd-DW01	Local Receptor Plan	1:27,750 @ A3

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 This Dust and Emissions Management Plan (DEMP) has been prepared for a proposed non-hazardous waste recycling facility at Unit 1, Westfield Industrial Estate, Waunarlwydd, Swansea, SA5 4SF ***(the Site)***. It has been prepared in accordance with Government guidance 'Control and monitor emissions for your environmental permit' (https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#emissions-management-plan-for-dust) and Natural Resources Wales (NRW) guidance 'How to comply with your environmental permit (April 2011).

1.1.2 The Site will be operated by Fiberight Limited ***(the Operator)*** to treat a range of non-hazardous wastes for recovery and recycling. Using state of the art Hydracycle™ technology (developed by the Operator), coupled with a range of integrated innovative material purification technologies, the plant is designed to achieve high rates of recycling, typically 70% or greater. It can also recycle many non-hazardous wastes that are typically either landfilled or incinerated, thereby moving these materials up the waste hierarchy and making a significant contribution to recycling targets. The Site will have an annual waste throughput of up to 60,000 tonnes. Hazardous wastes will not be accepted at the Site.

1.1.3 An application for a bespoke Environmental Permit was submitted to NRW on 12 August 2022. Comments were received from NRW on 19 January 2023, which confirmed the requirement for a revised Dust and Emissions Management Plan:

"We have reviewed the DEMP you have provided in support of your application for completeness and the following things need to be included which currently are not:

- *A Site Plan that shows:*
  - *All waste storage areas. The current site plan has numerous storage bays that are not labelled with waste types. The application also covers wastes (wood, RDF, SRF, General waste) which do not have storage locations shown on the plan;*
  - *Visual Monitoring points;*
- *Weather conditions: You do not provide any information regarding how weather conditions will be monitored and who will undertake this.*
- *Complaints: Complaints procedures (e.g. How they will be investigated, timescales, and how complaints will be reviewed) is not outlined.*
- *Records: Record management procedures are not outlined (e.g. Will monitoring records, or complaints be kept and reviewed by senior management).*

1.1.4 Following NRW's comments, the Operator has confirmed that:

I. There will be no external storage of wastes outside of the building. All wastes will be received, tipped, stored and processed inside the building, which is fully enclosed and fitted with a roller shutter vehicular access door.

II. The quarantine area for use in the event of a fire will remain external to the building, as shown on Drawing 'Site Location and Layout'. It will comprise a suitably sized, kerbed concrete pad and kept clear of materials at all times, except for emergency use during a fire incident (e.g. to move fire affected waste into (i.e. to ensure that it is fully extinguished) or for the receipt of unburnt waste for isolation and to prevent it catching fire.

III. The list of proposed wastes has been significantly reduced and there is no requirement to accept refuse derived fuel (RDR), solid recovered fuel (SRF), wood waste or mixed municipal wastes. As a result the proposed maximum annual waste throughput at the Site has been reduced and will now be 60,000 tonnes per annum.

IV. All waste streams are accepted for the purpose of recycling and recovery. No wastes are received for the specific reason of treating them for disposal. The waste recovery process does produce a small residual mixed fraction that will be mechanically dried for off-site supply as a RDF or SRF. However, the total quantity produced will be 20 tonnes per day on average, with a maximum capacity of 25 tonnes per day.

V. The Site will operate on a 24 hours x 7 days basis. There will be no waste deliveries or recyclate collections between the hours of 7.00pm and 7.00am. During this time period, the doors to the building will be kept closed, including the roller shutter vehicular access door (except in the event of an emergency, such as a fire) and all activities will take place inside. The building will be staffed throughout the operational period.

1.1.5 The building is of brick and metal sheeting clad construction, with impermeable concrete base. The vehicular access roller shutter doors are at the western end of the structure.

1.1.6 The proposed Environmental Permit boundary and site layout are shown on Drawing No 'Westfield-Waunarlwydd-DW01'. A receptor plan is shown on Drawing 'Receptor Location Plan'.

1.1.7 The requirement for a DEMP is to ensure that all reasonable measures to mitigate against the dispersion of fugitive emissions are undertaken by reviewing the potential source of dust and emissions from Site activities and assessing the impact these may have on identified sensitive receptors in the vicinity.

1.1.8 This DEMP provides an assessment of the production of fugitive emissions relating to waste handling operations at the Site and aims to identify potential sources of dust emissions, the associated potential impacts along with detailed measures to be implemented to mitigate dust and particulate matter.

1.2 THE SITE

1.2.1 The Site is located within Westfield Industrial Estate, Waunarlwydd, which comprises a large industrial complex to the west of Swansea. The Site formed part of the former Alcoa aluminium works from circa 1978 to its closure in 2007.

1.2.2 The Site building was formerly occupied and used by Alcoa for aluminium processing. The impermeable concrete base is generally in a good condition, although some improvements have been made by the Operator.

1.2.3 The Site is predominantly surrounded by industrial buildings that were historically used for the

manufacture of aluminium products. It is accessed from Titanium Road to the east and internal industrial estate roads. A Gatehouse and security barriers are located at the entrance to the industrial estate from Titanium Road. The road used to access the Site through the industrial estate is paved and all areas within the permit boundary used for unloading, waste storage and processing comprise concrete. Therefore vehicles accessing and exiting the Site are not required to drive over unpaved roads or areas.

1.2.4 The Site is not located within a designated Air Quality Management Area (AQMA) (https://uk-air.defra.gov.uk/data/laqm-background-home). The nearest AQMA is located along the A483 in Fforestfach, circa 2.3Km to the east of the Site at the closest point.

1.3 SITE RESPONSIBILITY OVERVIEW

1.3.1 The Site Manager or, during periods of absence, the Health and Safety Manager will have overall responsibility for ensuring that potentially dusty emissions arising from the Site are minimised and that all process controls are managed/maintained. Adequate staffing levels will be maintained at all times to ensure the effective operation of the facilities.

2 LEGISLATION AND POLICY

2.1 EUROPEAN DIRECTIVES

2.1.1 European Union (EU) air quality legislation is provided within Directive 2008/50/EC, which came into force on 11th June 2008. This Directive consolidated previous legislation which was designed to deal with specific pollutants in a consistent manner and provided new Air Quality Limit Values (AQLVs) for particulate matter with an aerodynamic diameter of less than 2.5µm. The consolidated Directives include:

- Directive 1999/30/EC - the First Air Quality "Daughter" Directive - sets ambient AQLVs for nitrogen dioxide (NO2), oxides of nitrogen (NOx), sulphur dioxide, lead and particulate matter with an aerodynamic diameter of less than 10µm (PM10);
- Directive 2000/69/EC - the Second Air Quality "Daughter" Directive - sets ambient AQLVs for benzene and carbon monoxide; and,
- Directive 2002/3/EC - the Third Air Quality "Daughter" Directive - seeks to establish long-term objectives, target values, an alert threshold and an information threshold for concentrations of ozone in ambient air.

2.1.2 The fourth daughter Directive was not included within the consolidation and is described as:

- Directive 2004/107/EC - sets health-based limits on polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel and mercury, for which there is a requirement to reduce exposure to as low as reasonably achievable.

2.2 UK LEGISLATION

2.2.1 The Air Quality Standards Regulations (2010) came into force on 11th June 2010 and transpose EU

Directive 2008/50/EC into UK law. AQLVs were published in these regulations for seven pollutants, as well as Target Values for an additional five pollutants.

2.2.2 Part IV of the Environment Act (1995) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.2.3 Table 1 presents the AQOs for PM_{10}.

Table 1: Air Quality Objectives for PM_{10}

Pollutant	Air Quality Objectives	
	Concentration ($\mu g/m^3$)	Averaging Period
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum

3 BASELINE

3.1 BACKGROUND POLLUTANT CONCENTRATIONS

3.1.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

3.1.2 Predictions of background pollutant concentrations on a 1 km by 1 km grid basis have been produced by DEFRA for the entire United Kingdom to assist Local Authorities and Natural Resources Wales (NRW) in their review and assessment of air quality. The Site is located in grid square NGR: 259500 195500 (SS 59500 95500). Data for this location was downloaded from the DEFRA website (https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018) for the purpose of the assessment and is summarised in Table 2.

Table 2: Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration ($\mu g/m^3$)		
	2019	2020	2021
NO_2	6.346794 $\mu g/m^3$	6.928768 $\mu g/m^3$	6.675286 $\mu g/m^3$
PM_{10}	10.89507 $\mu g/m^3$	10.69047 $\mu g/m^3$	10.56922 $\mu g/m^3$

3.1.3 According to DEFRA's Background Air Pollution Mapping Data, background emission concentrations in the locality of the Site since 2019, have been, and are predicted to be, below air quality standards. National air quality objectives and European Directive limits and target values stipulate that

concentrations of PM_{10} measured at 24-hour mean levels should not exceed 50 µg/m^3 for more than 35 times a year. NO_2 concentrations should not exceed 40µg/m^3 when measured on an annual mean basis. Based on background concentrations, as tabulated above in Table 2, the air quality at the Site itself and in the vicinity is unlikely to exceed these parameters.

3.2 PREVAILING WINDS

3.2.1 Statistics on wind direction and speed are based on observations taken from the nearest weather station at Swansea Bay / Mumbles Head (circa 9.225 km south of the Site) between November 2000 and November 2021. This indicates that prevailing winds originate predominantly from the south west with an average wind speed of 13 Knots, see Figure 1. The wind rose data is shown in Figure 2.

Figure 1: Monthly wind speed statistics and directions for Swansea Bay / Mumbles Head

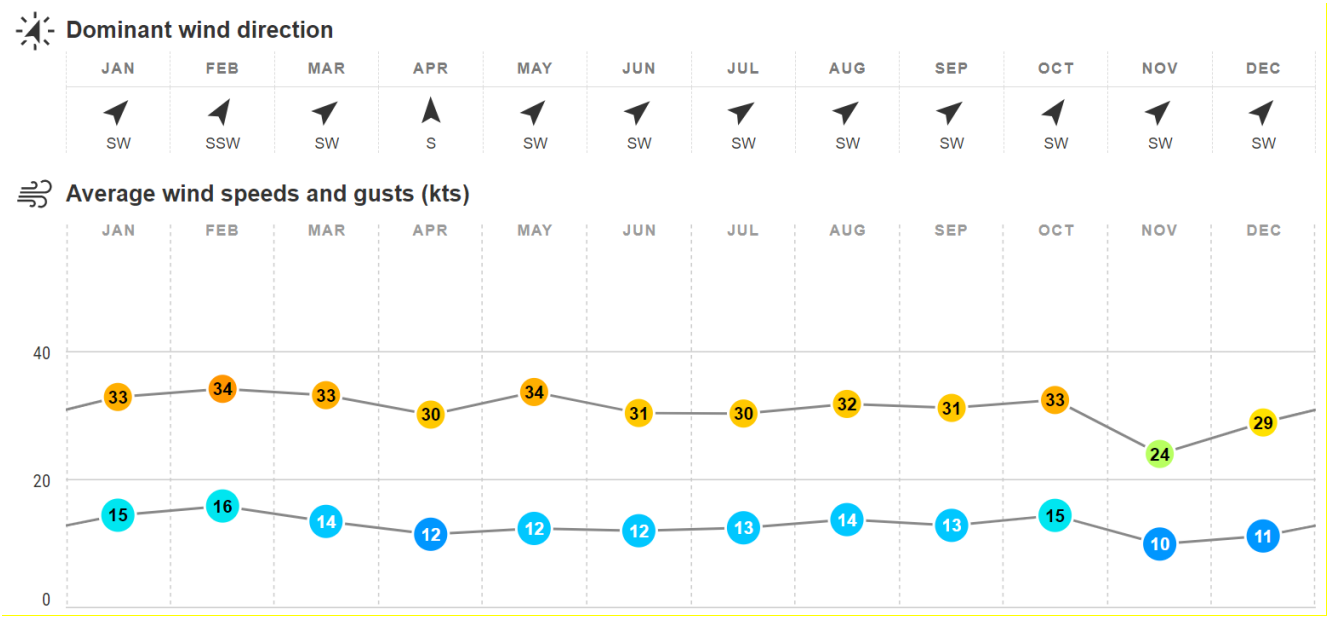
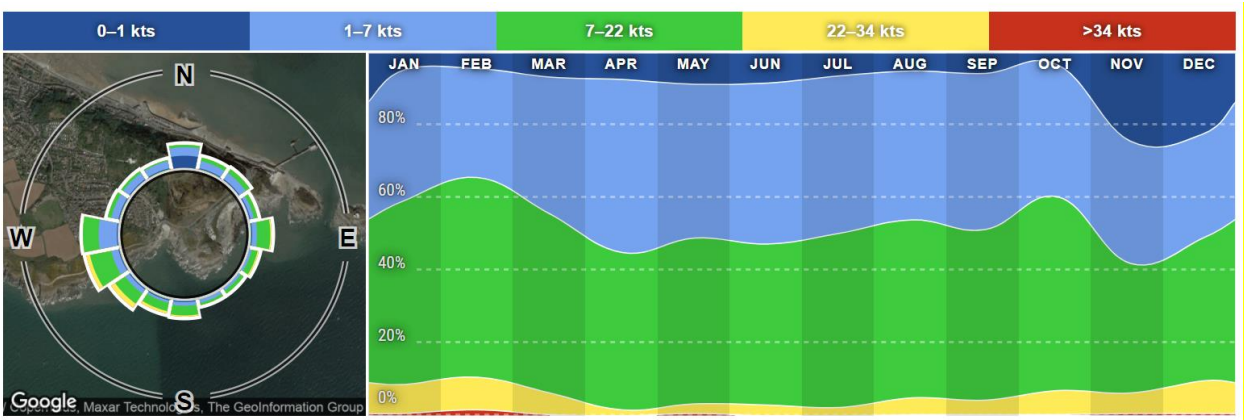


Figure 2: Monthly wind direction and strength distribution



4 RECEPTORS

4.1.1 A review of potentially sensitive receptors has been undertaken, including residential properties, commercial and industrial premises, amenity areas, designated nature sites and areas of high landscape quality, such as Areas of Outstanding National Beauty (AONBs) and National Parks.

4.1.2 The nearest residential properties to the Site are located to the east, south east and south off Titanium Road (circa 330m distant), on Bridge Road (circa 385m), Meadow Croft Close (circa 470m) and on Roseland Road (circa 465m).

4.1.3 Nearby neighbouring businesses on Westfield Industrial Estate include:

- Hill Group (a manufacturing and installation company specialising in insulation, trace heating, electrical install and glass reinforced plastic), circa 50m to the south west of the Site:
- Real Alloy (an aluminium recycling facility), circa 190m to the west;
- Cymru Coaches Ltd, circa 30m to the south;
- Timet UK Ltd (a titanium products manufacturing company), circa 45m to the north.

4.1.4 There are no Special Protection Areas (SPAs), Special Areas of Conservation (SACs), RAMSAR sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNR) or Marine Conservation Zones within 3km of the Site. Therefore, these types of receptor are not considered further in this DEMP because the potential for significant dust impact from the Site at this distance is very low.

4.1.5 Cwmllwyd Wood Local Nature Reserve (LNR) is circa 1.4km south southeast of the Site. In addition, NRW has identified six Sites of Importance for Nature Conservation (SINCs) within a 1km radius of the Site:

- Main Swansea - Fishguard railway line, circa 410m south of the Site at the closest point;
- Penyfodau Fawr to Llewith, circa 590m northwest of the Site;
- Mynydd Bach-Y-Glo), circa 475m southeast of the Site;
- Alcoa Wet Meadows, circa 330m west of the Site;
- Dunvant Brickworks, circa 665m south southeast of the Site;
- Gowerton Mart Woods, circa 325m west of the Site.

4.1.6 There are pockets of ancient woodland in the vicinity of the Site. The nearest is circa 400m northwest of the Site, which is downwind of the prevailing wind direction.

4.1.7 The nearest AONBs and National Parks to the Site are the Gower AONB (circa 3.5km southwest) and the Brecon Beacons National Park (circa 23km to the northeast). Therefore, these receptors are not considered further in this DEMP as the potential for significant dust impact from the Site at this distance is very low.

4.1.8 Sensitive receptors at potential risk from any dust emissions at the Site are shown on the Drawing

'Receptor Location Plan' and are listed in Table 1 below.

4.1.9 Table 3 uses the hierarchy of hospitals, schools, childcare facilities, elderly housing, convalescent facilities (i.e. areas where inhabitants are more vulnerable to the adverse effects of exposure to dust), residential properties, industry, major infrastructure, amenity areas and designated habitat sites.

4.1.10 In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to dust emissions based on the receptors' proximity to the Site and the location of the sensitive receptors in regard to the prevailing wind direction as shown in Figures 1 and 2.

4.1.11 Generally, a 1km radius reflects the maximum potential distance that dust could reasonably be expected to cause affects in extreme meteorological conditions without any mitigation measures in place. Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016) states that *"it is commonly accepted that the greatest impacts will be within 100 m of a source and this can include both large (>30 µm) and small dust particles. The greatest potential for high rates of dust deposition and elevated PM10 concentrations occurs within this distance. Intermediate-sized particles (10 to 30 µm) may travel up to 400 m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 1µm have the potential to persist beyond 400 m but with minimal significance due to dispersion."* Environment Agency guidance on 'Monitoring of Particulate Matter in Ambient Air Around Waste Facilities' states that large particles (>30 µm) responsible for most dust annoyance mostly deposit within 100m of the source, intermediate-sized particles (10–30 µm) are likely to travel up to 200–500m and smaller particles (<10 µm) can travel up to 1 Km from the source.

4.1.12 Due to the high number of sensitive receptors, not all residential properties and local businesses etc are individually assessed, as there are several thousand locations within the assessment distance. Table 3 assesses the most proximate receptors within each category to provide information on the highest level of risk that would be encountered. Where mitigation measures demonstrate that the level of dust risk is low at the selected sites, it can be assumed that risk would also be low at more distant sites.

Table 3: Dust Emissions Risk Assessment

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Medical					
West Coast Dental Care	590m SW	Low	Low/Moderate	Located upwind of the prevailing wind direction and relatively distant from the site (over 500m). All wastes will be tipped, stored and processed inside a fully enclosed building, fitted with vehicular access roller shutter doors. Recovered products will be loaded inside the building for removal from the site to customers. The roller shutter doors will be kept closed other than when vehicles are entering and exiting the building. This will help to minimise fugitive dust emissions. Wastes will be processed on a first in first out basis to ensure all materials are recycled and recovered within 48 hours of receipt (or up to 4 days during weekends and bank holidays). Regularly emptying, sweeping and disinfection of waste storage bays and other operational areas in the building (typically within 48 hours) to ensure waste and dust deposits are not allowed to accumulate over an extended period of time and give rise to potential dust emissions. Hoses available to spray operational areas and site entrance and access road with water during dry weather conditions to suppress any dust. Daily inspections of the operational area by the Health and Safety Manager (or in his absence the Site Manager) to ensure dust emissions are not arising from the site.	Low
Residential Care Home					
Ty Waunarlwydd	480m S	Low	Low/Moderate	Located upwind of the prevailing wind direction. There is a thick belt of trees at the southern end of Westfield Industrial Estate (i.e. between the Site and the care home), which would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Ashgrove House	650m SW	Low	Low/Moderate	Located upwind of the prevailing wind direction and relatively distant from the site (over 500m). There are tall industrial buildings and a belt of trees between the Site and the care home, which would afford some protection. Use of control measures in Section 6 and summarised above.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Ty Victoria	750m S	Low	Low	Located upwind of the prevailing wind direction and relatively distant from the site (over 500m). There is a thick belt of trees at the southern end of Westfield Industrial Estate (i.e. between the Site and the care home), which would afford some protection from the Site. Use of control measures in Section 6 and summarised above.	Low
Schools and Colleges					
Ysgol Gynradd Gymraeg Y Login Fach Primary School	780m SE	Low	Low	Located upwind of the prevailing wind direction and distant from the site (over 750m). There are thick belts of trees between the Site and the school, which would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Waunarlwydd Primary School	785m SW	Low	Low	Located upwind of the prevailing wind direction and distant from the site (over 750m). There are tall industrial buildings and a belt of trees between the Site and the school, which would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Residential Properties					
Keepers Lodge Farm	800m E	Low	Low	Although the dwelling is downwind of the prevailing wind direction it is distant from the site (over 750m). There are belts of trees and shrubs that would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Titanium Road	330m E	Moderate	Moderate	Although located downwind of the prevailing wind direction, the dwelling is over 250m from the Site and there are belts of trees and shrubs between the two locations, which would afford some protection. The use of the control measures in Section 6 and summarised above is important to ensure no significant dust impact at this receptor.	Low
Property off Roseland Road	390m ESE	Moderate	Moderate	Residential receptor is downwind of the prevailing wind direction. There are thick belts of trees and shrubs, which would afford some protection. The use of the control measures in Section 6 and summarised above is important to ensure no significant dust impact at this receptor.	Low
Property off Roseland Road	395m SE	Moderate	Moderate	Residential receptor is upwind of the prevailing wind direction. There are thick belts of trees and shrubs between the two locations, which would	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
				afford some protection. The use of the control measures in Section 6 and summarised above.	
Bridge Road	385m S	Moderate	Moderate	Residential receptor is upwind of the prevailing wind direction. Use of the control measures in Section 6 and summarised above.	Low
Meadow Croft Close	485m S	Low	Low/Moderate	Located upwind of the prevailing wind direction. There is a thick belt of trees between the Site and the residential properties, which would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Westfield Road	395m SSW	Moderate	Low/Moderate	Residential receptor is upwind of the prevailing wind direction. There are tall industrial buildings and a belt of shrubs and trees between the Site and the residential properties, which would afford some protection. The use of the control measures in Section 6 and summarised above.	Low
Laurel Drive	430m SW	Low	Moderate	Located upwind of the prevailing wind direction. There are tall industrial buildings and a belt of shrubs and trees between the Site and the residential properties, which would afford some protection. Use of control measures in Section 6 and summarised above.	Low
Industrial and Commercial					
Timet UK	45m N	Medium/High	High	The company is in close proximity to the site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Driving Instructor Services	80m WNW	Medium/High	High	Although the company is located upwind of the site, it is in close proximity and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Hill Insulation	50m SW	Medium/High	High	Although the company is located upwind of the site, it is in close proximity and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Cymru Coaches	30m S	Medium/High	High	Although the company is located upwind of the site, it is in close proximity and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Real Alloy	190m W	Medium	Medium	Although the company is located upwind of the site, it is in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Cogent	205m ESE	Moderate	Moderate/ Medium	This company is in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
A 2 Z of Motoring	295m S	Moderate	Moderate/ Medium	Located upwind of the prevailing wind direction. Use of control measures in Section 6 and summarised above.	Low
Substation	300m ENE	Moderate	Moderate/ Medium	Although this receptor is located downwind of the prevailing wind direction, it is generally unmanned and is considered relatively low risk in terms of its sensitivity.	Low
Sports and Playing Fields					
Waunarlwydd Rugby Club	555m SE	Low	Low/Moderate	Relatively distant from the site (over 500m). The use as a rugby club is not anticipated to have long periods of occupancy by the same people. See site control measures detailed in Section 6.	Low
Community Facilities					
Waunarlwydd Community Centre	715m S	Low	Low/Moderate	Upwind of the prevailing wind direction and relatively distant from the site (over 500m). A community centre is not anticipated to have long periods of occupancy by the same people. See site control measures detailed in Section 6.	Low
Railway					

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Rail Line	410m S	Low	Low/Moderate	Upwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts to railway infrastructure at this distance, and trains will quickly travel beyond the proximity of the site, meaning exposure time is likely to be very short. Rail personnel maintain the line in proximity to the site would have longer periods of occupancy. The use of control measures detailed in Section 6 and summarised above would protect workers from any significant dust impacts.	Low
Surface Water					
Afon Lian	405m N	Low	Low/Moderate	Downwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts at this distance on water quality or flora and fauna associated with the river. Personnel accessing the river in proximity to the site could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Agricultural Land					
Agricultural Land	200m NE (arable land 500m NW)	Moderate	Moderate/ Medium	The nearest agricultural land is downwind of the prevailing wind direction. Dust is considered unlikely at this distance to cause significant impacts to arable crops or grazing animals. However, agricultural workers could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Ancient Woodland					
Ancient Woodland	400m NW	Low	Low/Moderate	The nearest ancient woodland, which is also downwind of the prevailing wind direction, is circa 400m from the Site. At this distance dust is considered unlikely to cause significant impacts to the flora and fauna.	Low
Designated Habitat Sites					
Cwmllwyd Wood Local Nature Reserve (LNR)	1410m SSE	Low	Low	The designated nature site is distant from the site and unlikely to be impacted by dust.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Main Swansea - Fishguard Railway Line SINC	410m S	Medium	Low/Moderate	Upwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Penyfodau Fawr to Llewith SINC	590m NW	Low	Low	Upwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Mynydd Bach-Y-Glo SINC	475m SE	Low	Low/Moderate	Relatively distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Alcoa Wet Meadows SINC	330m NW	Medium	Low/Moderate	Upwind of the prevailing wind direction. Personnel accessing the site for amenity reasons etc could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Dunvant Brickworks SINC	665m SSE	Low	Low	Upwind of the prevailing wind direction and distant from the site.	Low
Gowerton Mart Woods SINC	325m W	Medium	Low/Moderate	Upwind of the prevailing wind direction. Personnel accessing the site for amenity reasons etc could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust.	Low
Penyfodau Fawr to Llewith SINC	590m NE	590m NW	Low	Upwind of the prevailing wind direction and relatively distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low

5 WASTE MANAGEMENT

5.1 PERMITTED WASTES

5.1.1 The list of proposed wastes at the Site is detailed in Table 4 below, together with their associated dust emission risk under 'normal' operational conditions and without mitigation or control measures being applied. The maximum waste throughput at the Site will be 60,000 tonnes per annum and the maximum quantity of wastes stored on site at any one time will be 400 tonnes.

Table 4: Permitted Wastes

ECW Code	Description	Dust Emission Risk
02 01	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**	
02 01 04	Waste plastics	Low
03 03	**Wastes from pulp, paper and cardboard production and processing**	
03 03 07	Mechanically separated rejects from pulping of waste paper and cardboard	Medium
03 03 08	Wastes from sorting of paper and cardboard destined for recycling	Medium
15 01	**Packaging (including separately collected municipal packaging waste)**	
15 01 01	Paper and cardboard packaging	Low
15 01 02	Plastic packaging	Low
15 01 06	Mixed packaging	Medium
19 12	**Wastes from the mechanical treatment of wastes (e.g. sorting, crushing, compacting, pelletising) not otherwise specified**	
19 12 01	Paper and cardboard	Low
19 12 04	Plastic and rubber	Low
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in in 19 12 11 (limited to dry recyclables only)	High
20 01	**Separately collected fractions (except 15 01)**	
20 01 01	Paper and cardboard	Low
20 01 39	Plastics	Low

5.2 WASTE RECEIPT

5.2.1 As part of the waste acceptance procedures for the Site, waste producers will be required to provide details of any precautions that should be taken to control dust emissions. Wastes delivered to the Site will be predominantly in baled form, which minimises the risks of fugitive dust emissions. Waste loads will also be required to be sheeted or contained in enclosed containers during delivery to and dispatch from the Site. Such materials will be sprayed with water during dry weather to control any dust emissions during off loading, storage and processing.

5.2.2 Customers delivering waste to the Site will be required to provide the Operator, in advance, with pre-

acceptance documentation to fully characterise the nature of the proposed materials. In addition, a Waste Transfer Note or Season Ticket will be required to accompany the waste load during delivery to satisfy the requirements of the Duty of Care and the Waste (England and Wales) Regulations 2011.

5.2.3 The Operator will check pre-acceptance documentation from suppliers and waste testing results to ensure that only permitted waste streams are approved for delivery to the Site. Non-permitted wastes or other unsuitable wastes will not be accepted. Any pre-acceptance documentation that indicates the load may be in loose powder or dust form will result in the load being refused prior to its delivery.

5.2.4 Checks will be made to establish whether the haulier is a Registered Waste Carrier or has a valid exemption from registration. Only registered carriers or those who are lawfully exempt from registration will be permitted to use the Site.

5.2.5 Site staff will examine the waste descriptions of incoming waste loads and the information will be checked against the previously supplied pre-acceptance documentation, six figure European Waste Catalogue Code(s) and other details on the Waste Transfer Note or Season Ticket (as appropriate) and against the waste types permitted by the Environmental Permit.

5.2.6 Every delivery of waste will be recorded, detailing the date of the transaction, weight, waste type, registered carrier, Waste Transfer Note number, vehicle registration and other pertinent information against a unique reference number. It will allow for tracking of wastes, the generation of reports and waste returns, as well as providing comprehensive, auditable information. Waste loads will arrive in sheeted or fully enclosed vehicles. Where possible the load will be visually inspected on arrival (i.e. prior to a further check upon deposit) and any deliveries found to be inherently dusty will not be accepted.

5.2.7 Waste will not be accepted if for any reason there is insufficient storage capacity available or if the Site is inadequately manned. This is to ensure that all waste is managed effectively to prevent pollution or loss of amenity.

5.2.8 A banksman will instruct waste delivery drivers to the appropriate part of the Site for off-loading, according to the type of waste being delivered, to ensure materials are stored and processed separately.

5.2.9 A visual inspection of the contents of all waste loads, including those received in enclosed containers and in baled form, will be made during deposit.

5.2.10 Any discrepancies found as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:

- Referral to a Technically Competent Person (TCP) on site;
- Referral to the waste producer to confirm the nature of the waste load;
- Referral to the waste carrier's base;
- Referral to NRW;
- Redirection of delivery vehicle off site, to a suitably authorised facility; and

- Removal of the waste to the secure quarantine area, prior to off-site removal either to the waste producer or suitably authorised facility.

5.2.11 Records of all incoming waste loads will be kept on Site or in a secure location off site in accordance with The Duty of Care requirements and the Environmental Permit. Full details are included in the Environmental Management System (Ref: Fiberight-Waunarlwydd-RP01-Final (EMS)).

5.3 NON CONFORMING WASTE

5.3.1 Any loads which contain non-permitted wastes shall be rejected prior to delivery or unloading. In the event that non-permitted waste has been inadvertently deposited and the delivery vehicle has left the Site, it will be temporarily stored in the quarantine area (inside a sealed skip or container), pending its removal to the waste producer or an authorised facility. Any dusty wastes requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling.

5.4 WASTE STORAGE AND PROCESSING

5.4.1 Waste storage and processing areas comprise:

- A fully enclosed and sealed building, incorporating a concrete base and fitted with a roller shutter vehicular access door and pedestrian access doors;
- A series of engineered fireproof bays with concrete side walls and push walls for waste storage and bulking up operations;
- A drum pulping unit. A mechanical grab will be used to transfer incoming wastes from the fireproof waste storage bays into the feed hopper of a drum pulping unit. Water is added to the pulper on a closed loop system to aid the sorting and separation of materials. Materials are passed through screens (typically set between 50mm and 80mm, depending on operational requirements) to separate a <50mm to 80mm fraction and a >50mm to 80mm fraction.
- The small fraction (i.e. <50mm to 80mm) discharges into a biomass hopper from where materials are conveyed to washing tunnels, which comprise various modules. Water is used to saturate the <50mm to 80mm pulp fraction to further assist separation and recovery. Other modules are used to wash out any organic waste contamination and clean the pulp and plastics to an acceptable quality. Further modules are then used to recover excess washing water from the pulp for recirculation and reuse and to clean and separate the plastic. The washing tunnels thereby produce a clean organic pulp fraction, a clean plastic fraction and a rejects fraction. All three fractions are conveyed to the post wash for further processing.
- The post wash. In the post wash, the organic pulp fraction is passed through a screw press to remove excess moisture and conveyed for loading into lorries for supply to customers as a recycled pulp raw material. The clean plastic fraction is further processed in the plant. The rejects fraction is conveyed to a screw press to remove excess water and then to a reversible conveyor, where remaining plastic film can be separated for washing and recovery. The remaining reject material is removed from the Site as waste to authorised facilities.

- The ≥50mm/80mm fraction is passed through a coarse screen (typically 250mm), to separate materials from oversize wastes such as plastic film. The smaller fraction (typically ≥50mm/80mm to 250mm) is conveyed to an air classifier, where lighter materials are separated from the heavier fraction. Lighter fraction materials such as plastic film are separated for onward washing. The heavier fraction is conveyed to a picking station where rigid plastics are manually separated for washing and bailing, whilst remaining materials are conveyed to an overband magnet and eddy current separator for ferrous and non-ferrous metal recovery. Both ferrous and non-ferrous are separately baled prior to removal from the Site. Remaining materials are passed to a shredder, a screw press (to remove excess moisture) and cyclone to facilitate separation and onward processing.

- The oversize fraction (typically >250mm) is shredded and conveyed to a to a cyclone to separate plastic film from other materials that can be further processed and recovered. Plastic film is washed and passed to a screw press (to remove excess wash water) to facilitate its' recovery.

- Plastics removed at the pulping and initial sorting stages are further processed to separate them into different polymer types.

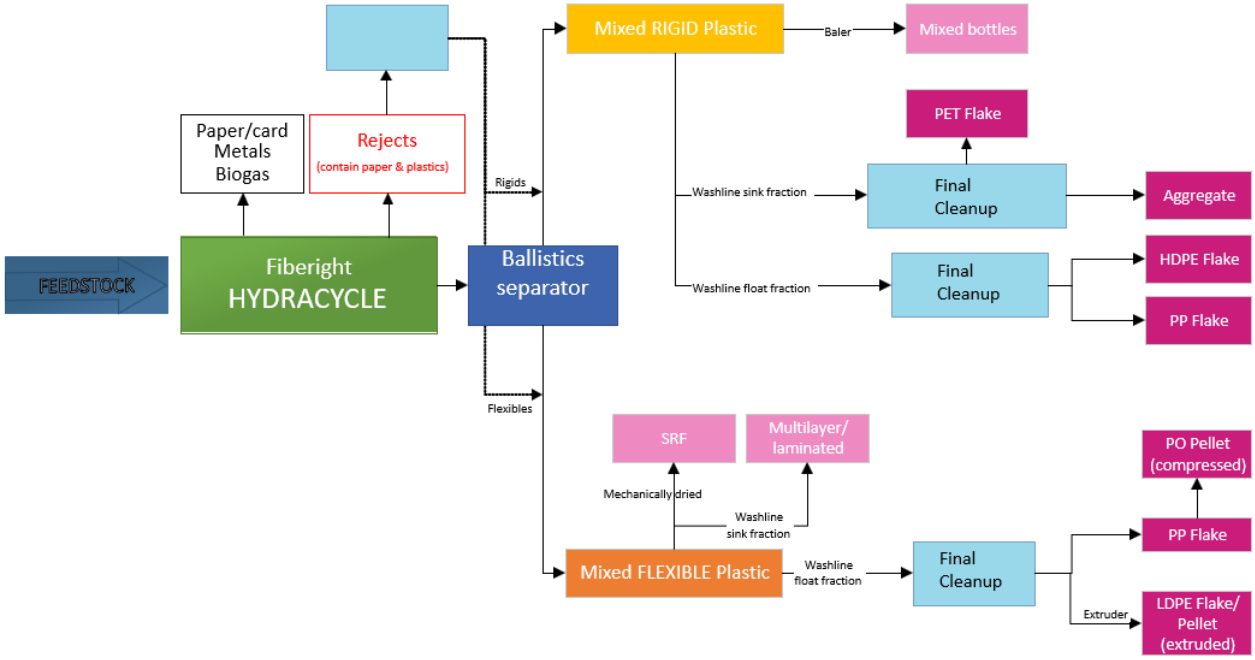
- Materials are fed to ballistic separators, which separate mixed rigid plastics and mixed flexible plastic.

- Mixed rigid plastics are processed using a series of proprietary technologies, which first separate the Polyethylene Terephthalate (PET) and then produce concentrated Polypropylene (PP) and Polyethylene (PE) streams that are suitable for direct supply to plastic product manufacturers. By separating plastics into their various polymer types, recycling and recovery rates are enhanced, including materials such as plastic film that were previously difficult or impossible to recycle.

- Mixed flexible plastics are also separated into specific factions including Polypropylene (PP), Low Density Polyethylene (LDPE) and multi-layered laminate. The small, residual fraction is shredded and mechanically dried and added to the small residual fraction from the pulp recovery to produce a Solid Recovered Fuel (SRF), for export off site. The total quantity produced will be 20 tonnes per day on average, with a maximum capacity of 25 tonnes per day (full details are included in the EMS, paragraphs 4.5.4 to 4.5.6).

5.4.2 A process flow diagram is shown in Figure 3 below.

Figure 3: Process Flow Diagram



6 DUST CONTROL MEASURES

6.1 WASTE ACCEPTANCE PROCEDURES

6.1.1 The waste acceptance procedures detailed below will be the initial method of preventing wastes in powder or dust form or inherently dusty loads being accepted at Site. The requirements for waste producers to provide pre-acceptance documentation that includes identification of any potential risks to the environment, including from inherently dusty wastes, will help to identify any potential loads that should be rejected from the Site prior to delivery. Pre-acceptance documentation will record:

- The waste description;
- The European Waste Classification (EWC) code;
- The source and nature of the waste, including its physical form;
- Any special handling measures;
- Any potential risks to process safety, occupational safety and the environment (e.g. from dusts or powders);
- Details of the waste producer (name, address and contact details);
- Where the waste holder is not the producer, details of the waste holder (name, address and contact details);
- Information on the nature and variability of the waste production process and the waste;

- Age of the waste;
- Type of packaging;
- An estimate of the quantity to be received in each load and in a year.

6.1.2 On arrival at the Site, a trained site operative will inspect the details on the Waste Transfer Note / Season Ticket and against the pre-acceptance documentation to confirm whether the delivered waste is authorised in accordance with the Environmental Permit.

6.1.3 The contents of the waste load will be inspected upon receipt where possible, i.e. prior to tipping in the building. In the event that a load is inherently dusty or in powder or dust form on arrival it will not be allowed to unload and will be rejected. A record of the non-permitted load will be made.

6.2 WASTE STORAGE AND PROCESSING INSIDE THE BUILDING

6.2.1 All wastes will be tipped, stored, bulked up and processed inside the building, which is fully enclosed and fitted with a vehicular access roller shutter door. The door will be kept shut except during vehicle delivery, off-loading and exiting the Site.

6.2.2 The building floor comprises concrete. A concrete access road has been constructed to the building entrance off of the internal industrial estate road network (which comprise a mixture of concrete and tarmac). There is no requirement for vehicles to drive over unmade roads or surfaces or for wastes to be stored and processed on unmade land.

6.2.3 The site layout has been revised to incorporate three waste reception bays inside the building (see Drawing Site Location and Layout). It is not possible to construct an individual bay for each waste code. Therefore one bay will be used for the receipt of baled wastes and the other for unbaled materials. The third bay will be used for rotation purposes so that whilst one bay is being emptied for processing, the third bay can be used for receipt of incoming materials. In this way each bay will be emptied completely every 48 hours, although this may increase to 4 days during weekends and bank holidays. Once empty the bay will be thoroughly swept, including the corners, to ensure all wastes and debris are removed and the potential for dusts to accumulate over time is minimised.

6.2.4 All waste treatment processes will take place inside the building to control dust emissions. It is important to note that during the initial stages of waste treatment, water is added inside the drum pulper to aid sorting and separation. This means that the waste treatment process is predominantly in wet form, further reducing the potential for dust emissions.

6.2.5 In addition to emptying and sweeping the bays every 48 hours (or up to 4 days during weekends and bank holidays), the Site will be swept during the course of the working day and at the end of the each shift to ensure the facility is clean and tidy. Site sweeping will be carried out by site operatives under the supervision of the Site Manager, Health and Safety Manager or other Technically Competent Person.

6.2.6 The trigger for additional sweeping and cleaning will be during periods of dry weather, which may give rise to dusty conditions, during daily site inspections if noticeable dust accumulation is present or if there is the potential for dust emission from the Site. The purpose of the sweeping and cleaning will

be to ensure that dust emissions do not escape the Site boundary.

6.2.7 Hose reels will be installed at the Site and used to dampen any areas or wastes that have the potential to give rise to dust emissions, e.g. during hot and dry weather.

6.2.8 In the unlikely event that mud or dust is identified as an ongoing issue, a road sweeper can be sourced from a local supplier.

6.2.9 In the event that circumstances beyond the control of the Operator (such as the breakdown of critical plant on site or the closure and general non-availability of sites that the recycled and recovered materials are typically sent to) result in the quantity of waste building up to levels approaching the maximum authorised in the permit, alternative authorised facilities will be sought as a matter of urgency to ensure that waste levels are quickly controlled and materials do not give rise to dust emissions (see Section 6.7).

6.3 MATERIAL EXPORTED OFF-SITE

6.3.1 All recycled and recovered products dispatched from the Site will be in suitably enclosed or sheeted vehicles to control the potential for dust emissions during transfer off site.

6.3.2 Material rejected from the Site will be issued with a record stating why, when and from which contract the waste was provided. This record is held on Site for NRW to inspect. In addition, the 'Record of Non-Conformance' will be completed with the record held on Site (see EMS).

6.4 PLANT MAINTENANCE

6.4.1 Site infrastructure and plant will be inspected regularly for damage and wear by the Site Supervisor or other appointed responsible person. Records of these checks will be maintained in accordance with the EMS. All maintenance on the plant is programmed into the company's Planned Preventative Maintenance (PPM) system which generates work orders for up-coming maintenance and logs when that maintenance has been completed.

6.4.2 Trained maintenance staff can be called on to effect plant repairs quickly where required. Typically plant repairs can be undertaken within one working day, depending on the availability of spares.

6.5 TRAINING

6.5.1 All site personnel working at the facility will be subject to a formal documented training programme in accordance with Company procedures and EMS. Matters relating to the control of dust and the prevention of dust emissions from the Site form part of this core training programme for all individuals. Additional training is also provided for personnel required to complete subjective visual dust monitoring.

6.6 COMMUNITY LIAISON

6.6.1 Fiberight Ltd operates an open-door policy and members of the public are welcome to contact the Site to discuss any issues with the site management team. Prior arrangement will be made with site

personnel, where possible, for any site visit that may be required.

6.6.2 Site contact details and 24 hours contact number are shown on the Company website. Direct feedback to site is encouraged at all times in relation to any perceived issues associated with operational activities.

6.7 CONTINGENCY ARRANGEMENTS

6.7.1 Contingency arrangements are available at short notice to divert incoming waste loads or transfer wastes already received at the Site to other suitably authorised facilities should the need arise.

6.7.2 Incidents that may cause contingency arrangements to be implemented include:

- Extreme weather that prevents vehicles or staff safely reaching the Site or compromises the operational efficiency of the facility;
- If the Site reaches a capacity where further waste loads cannot be received without compromising operational efficiency or compliance with the Environmental Permit;
- Identification of a waste load that is unacceptable for receipt or may cause dust levels that cannot be adequately controlled;
- Any major incidents such as fire or flooding which prevent or compromise the safe and efficient operation of the Site.

6.7.3 In reality the requirement to implement contingency measures is only likely to arise infrequently, if at all. However, contingency arrangements will be maintained throughout the life of the Site as a necessary safeguard.

6.8 EMERGENCY

6.8.1 In the event of a site emergency, the Site Manager and Health and Safety Manager will be notified without delay. The emergency measures will be implemented as a priority to mitigate the incident, as appropriate.

6.9 SITE INSPECTIONS

6.9.1 The Health and Safety Manager (or during his absence for leave etc, the Site Manager or other Technically Competent Person) will undertake both daily and weekly inspections of the Site. The daily inspections will include the waste storage and processing areas inside the buildings. The weekly inspections will be recorded and include the external perimeter area of the Site.

6.9.2 Monthly management meetings will include a review of current and planned site operations with respect to their potential for generating dusty emissions. Identified actions arising from the meetings and responsibilities for their completion will be recorded.

6.10 HOUSEKEEPING

6.10.1 The Operator will ensure efficient and regular housekeeping are used to maintain the Site in a tidy condition and minimise any risks of dust, litter or odour escaping the building and site boundary (appendix 1).

6.10.2 The use of first in first out principles will ensure the Site operates a rapid turnover of waste materials and that the waste bays are emptied frequently, as a minimum every 4 days, so that all materials are removed and the bays are totally emptied and swept (including the corners of the bay). This prevents the potential for any build-up of dust, litter or odour and ensures that all materials are rapidly removed.

6.10.3 Site cleaning procedures include sweeping out the bays, including the corners, to ensure all material is removed and potentially dusty residues do not remain in-situ.

6.10.4 The Site operates a daily 4 hours shutdown which enhances the ability to use good housekeeping measures. The Site will be swept during the shutdown period and during the course of the working day to ensure the facility is clean and tidy. Site sweeping will be carried out by site operatives under the supervision of the Site Manager or Health and Safety Manager. In addition, a weekly road sweeper vehicle visits the Site and passes through the building during shutdown to further clean both internal and external areas of the Site.

6.10.5 The trigger for additional sweeping and cleaning will be during periods of dry weather, which may give rise to dusty conditions, during daily site inspections if noticeable dust, litter or debris accumulation is present.

6.10.6 It is important to note that all site surfaces comprise concrete and engineered pavement and there is no requirement for vehicles to drive over unmade roads or surfaces or for wastes to be stored and processed on unmade land.

6.10.7 In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be sourced from a local supplier.

6.10.8 In the event that circumstances beyond the control of the Operator (such as the breakdown of critical plant on site or the closure and general non-availability of sites that the recycled and recovered materials are typically sent to) result in the quantity of waste building up to levels approaching the maximum authorised in the permit, alternative authorised facilities will be sought as a matter of urgency to ensure that waste levels are quickly controlled and materials do not give rise to fugitive emissions off site.

6.10.9 All wastes are dispatched from the Site in suitably enclosed or sheeted vehicles to authorised facilities in accordance with the Duty of Care and Waste Transfer Note / Season Ticket procedure.

7 DUST AND EMISSIONS MANAGEMENT

7.1 RESPONSIBILITY FOR IMPLEMENTATION OF THE DEMP

7.1.1 The Health and Safety Manager or, in his absence, the Site Manager or other Technically Competent Person will oversee the implementation of the DEMP and ensure that the methods detailed within this document provide effective dust mitigation.

7.1.2 Where the responsible individual is unavailable to supervise the implementation of dust suppression measures, a suitably experienced Site operative will be allocated responsibility.

7.1.3 If dust and particulate emissions continue to be observed following the use of the dust suppression measures outlined above, the DEMP will be reviewed and measures such as a fixed suppression systems considered.

7.1.4 Amendments of the DEMP to reflect any potential improvements will be made during the review process.

7.1.5 The Health and Safety Manager who will administer the implementation of the DEMP has been assessed in the implementation of site control measures as part of the Certificate of Technical Competence and therefore is deemed proficient to execute and review this DEMP.

7.1.6 During the induction process, all staff members will be trained in the dust suppression measures outlined in this DEMP. Refresher training will be provided in the scenario where additional dust suppression measures have been introduced to ensure staff remain competent.

7.1.7 The DEMP will be reviewed at least annually or following any adjustments in operations which have the potential to increase the level of exposure to surrounding sensitive receptors.

7.2 SOURCES AND CONTROL OF FUGITIVE DUST EMISSIONS

7.2.1 Detailed below are examples of potential sources of fugitive dust and particulate emissions associated with all the operations and activities at the Site:

- Vehicles entering and/or leaving the Site with mud on wheels, and tracking dust on to or off the Site;
- Debris falling off lorries which arrive uncovered;
- Vehicles and plant moving around the Site kicking up dust;
- Road vehicles tipping waste;
- Waste storage and processing activities;
- Site surfaces (i.e. the ground, plant and equipment);
- Loading any inadvertently accepted non-permitted wastes back on to vehicles for removal off-Site to authorised facilities;

- Particulate emissions from the exhaust of vehicles/plant/machinery on site.

7.2.2 It is considered unlikely that high wind speeds will cause significant dust emissions at the Site, as all waste deposit, storage, processing and loading of recycled materials for off-site supply to customers will be carried out inside the building and vehicles delivering and exiting the Site will be enclosed or sheeted. However, should wind speeds become so great that they are a risk to the environment or personnel then measures will be implemented to cease waste deliveries and close the Site.

7.2.3 Meteorological Office predictions and recordings of local weather data (https://www.metoffice.gov.uk/weather/forecast/gcjju40vj#?nearestTo=Waunarlwydd%20(Swansea)&date=2023-02-10) will be reviewed by the Health and Safety Manager to allow forward planning. Daily observations of weather conditions, including wind speed, direction and temperature, will be made so that Site operations can be rearranged to adapt to changing conditions where necessary.

7.2.4 Table 5 below details the measures to be applied to the Site for each of the sources outlined above to break the source-pathway-receptor routes.

7.2.5 Preventative and remedial measures to integrate on the Site to alleviate potential fugitive dust and particulate emissions are tabulated in Table 6 below. These are grouped in terms of cost (low or medium) and can be used individually or in conjunction.

7.3 VISUAL DUST MONITORING

7.3.1 Visual dust monitoring at the locations shown on Drawing No DW01 'Site Location and Layout' will be carried out as part of the routine daily inspections with any relevant observations recorded and retained on-site.

7.3.2 All plant will be inspected on a daily basis and cleaned after use, as appropriate, in order to prevent the accumulation of dust and loose materials.

7.3.3 Informal dust monitoring comprising of operational staff remaining vigilant for observable dust and particulate will be carried out during the operational process. Where uncontrollable dust emissions are identified, operations will cease, and the Site boundary will be examined to ensure emissions are not dissipating towards sensitive receptors. Dampening down of the source of any fugitive emissions will be undertaken before operational processes resume.

7.3.4 Due to the levels of abatement measures to be integrated on the Site as detailed above, the likelihood of emissions impacting on the identified sensitive receptors is considered low. Therefore, no other forms of dust monitoring is proposed for the Site.

7.3.5 In the unlikely event that dust emissions are identified as an issue, the Health and Safety Manager (in consultation with the Site Manager) will review the mitigation measures and monitoring techniques detailed in this DEMP in order to reduce exposure levels and inhibit emissions dispersing from the Site. In this scenario, quantitative techniques will be considered as a monitoring process.

7.3.6 Senior Management will review dust monitoring results as part of their monthly audit and site inspections. The Operator is committed to the following as part of the Site's EMS and this DEMP:

- Continual improvement;
- Minimising the risk of pollution incidents and preventing any significant impacts to sensitive receptors, including detriment to local amenity;
- Operated the Site in accordance with all the latest regulatory guidance;
- Meeting environmental objectives, including dust control, independent of the Environmental Permit.

Table 5 Source-Pathway-Receptor Route

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles. Mud dropping off wheels/vehicles when dry	Neighbouring industrial units and businesses in the vicinity and sensitive receptors identified in Tables 3 and 4	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	• The external yard comprises engineered concrete surface. The building floor comprises concrete surface throughout. Vehicles will not be required to drive over any unpaved areas. • Any accumulation of mud or dust at the Site, e.g. on the external yard area or entrance to the facility will be cleaned by sweeping. Water will be sprayed using a hose to dampen down any potentially dusty emissions. • In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be provided by a nearby supplier.
Debris	Falling off lorries	As above	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	• Potentially dusty waste loads will be delivered to the Site in contained waste vehicles or sheeted vehicles. Wastes delivered to the Site will be predominantly in baled form. • Efficient and prompt unloading of vehicles into the designated fireproof bays, which each comprise concrete side walls and rear push wall. • All areas subject to regular housekeeping. • Where debris is identified as an ongoing issue a road sweeper can be provided from a local road sweeper hire company.
Vehicles and plant moving	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• The external yard comprises engineered concrete surface. Vehicles delivering waste loads into the building, will be required to reverse in through the roller shutter doors (a banksman will oversee this procedure), prior to tipping the waste and exiting the Site. • Roller shutter doors will be kept closed, except during vehicle entrance and exit from the building. • Vehicles will not be required to drive over any unpaved areas. Therefore, dust generation which may impact surrounding sensitive receptors will be minimal. • Westfield Industrial Estate operates a 20 mph speed limit and warning signs are installed at the entrance to the facility. Slow vehicle speeds reduce the amount of dust that is kicked up during vehicle movements. • All areas, vehicles and plant machinery are subjected to regular housekeeping and removal of loose particles.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Tipping, storage and processing of wastes	Atmospheric dispersion	Surrounding sensitive receptors	Visual soiling and dispersion of airborne particulates	• Minimise source strength by means of low drop heights. Dampening down of material during dry periods or where load is identified during the inspection process as `dusty`. • All plant is inspected prior to and after use for dust and debris build-up. • Plant is regularly cleaned down after use to prevent the accumulation of dust and loose material. • All plant used on Site is maintained and serviced in accordance with manufacturers' guidelines and service agreements. • Wastes stockpiles are stored in engineered bays with concrete side walls and push walls. The use of bays helps to prevent fugitive emissions from waste and product stockpiles by reducing exposure to winds etc. • Wastes loads will be tipped, stored and processed inside the building, which is fully enclosed. • The addition of water to the drum pulper at an early stage of the waste treatment process ensures materials are predominantly processed in a damp condition, which minimises dust emissions. • Hose reels will be installed and used to spray water to control dust emissions from waste tipping, storage and processing areas.
Site surfaces	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• All site surfaces comprise engineered concrete.
Off-site removal of non-permitted waste	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• Any dusty wastes requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling. • Any non-permitted wastes requiring removal from the Site will be transferred in suitably enclosed or sheeted vehicles to control the potential for dust emissions.
Exhaust emissions	Atmospheric dispersion	Surrounding sensitive receptors	Airborne particulates	• Regulatory controls and best-practice measures to minimise source strength. Plant will be switched off when not in use. Delivery and collection vehicles will be required to switch engines off while unloading and loading where possible. • Mobile plant to be fitted with upturn exhausts. • All mobile plant to have radiator fan shields.

Table 6 Measures used on site to control Dust/Particulates (PM_{10})

Abatement Measure	Description / Effect	Overall consideration and implementation
Low Cost Options		
Site layout in relation to receptors	External and internal areas covered with an impermeable concrete surface.	Wastes will be off-loaded, bulked up and stored inside the building, which is fully enclosed. Unloaded wastes will be stored and bulked up in dedicated fireproof bays, comprising concrete side walls and rear push walls. The concrete walls will afford some additional protection from dust emission. All waste treatment processes will be undertaken inside the building. The use of a fully enclosed building, paved external access roads and concrete bays are an integral part of the site design and have not been constructed solely for the purposes of dust control, although they do provide a high level of abatement. The infrastructure and layout of the Site will ensure adequate dust control.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	Site speed limit of 10mph will be enforced. Vehicle engines will be switched off when not in use, to minimise any idling.
Minimising drop heights for waste.	Minimising the height at which waste is handled should reduce the airborne generation of debris, dust and particulates.	As stated above, vehicle drops heights will be minimised.
Medium Cost options		

Abatement Measure	Description / Effect	Overall consideration and implementation
Use of fully enclosed or sheeted vehicles or enclosed trailers to deliver wastes	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Waste loads will be delivered in either fully enclosed or sheeted vehicles to avoid dispersion of emissions. No wastes will be tipped or stored external to the building.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although unlikely to be necessary as all areas of the Site incorporate concrete pavement.	As a preventative measure to reduce the deposition of dust and loose material off site.
Minimisation of waste storage heights and volumes on site	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be dispersed. Reducing storage volumes should reduce the surface area over which particulates can be mobilised.	The majority of the waste material will not be stockpiled over long periods of time prior to treatment on site for recycling or recovery and off site supply to customers.
Ceasing operation during high winds and/or prevailing wind direction	During periods of elevated wind speeds the deposit of wastes within the building and concrete bays should still ensure that dust emissions are suitably controlled and minimised.	During periods of elevated wind speeds the deposit of wastes inside the building and within the concrete bays will ensure that dust emissions are suitably controlled and minimised. It is unlikely that operations will need to cease due to high winds, as all waste deposit, storage, processing and loading of recycled materials for off-site supply to customers will be carried out inside the building. However, this will be gauged by the Site Manager, Health and Safety Manager or other Technically Competent Person and should wind speeds become so great that they are a risk to site personnel, local residents, neighbouring businesses and the environment then measures will be implemented to cease waste deliveries and close the Site. Hose reels will be installed at the Site and water applied to potentially dusty wastes and operational areas during dry and dusty conditions.
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but	As stated above, sweeping will form part of the general housekeeping of the Site to minimise the build-up of loose material and thus the generation of potential dust.

Abatement Measure	Description / Effect	Overall consideration and implementation
	may also cause the mobilisation of smaller particles. Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside. This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not maintained.	
High Cost Options		
Installation of a water sprinkler system to control dust and additional water storage.	Water cannons have been installed as a fire control measure. However, the installation of a water sprinkler system and increasing the size of water storage on site could provide an additional dust control measure.	It is considered that the infrastructure and measures detailed above will provide a high level of dust control at the Site. A water sprinkler system would only be considered by the Operator if the existing infrastructure is no longer able to adequately control dust emissions.

8 COMPLAINTS

8.1 PROCEDURES IN THE EVENT OF A COMPLAINT

8.1.1 Fiberight Ltd operates and maintains a detailed EMS for the Site (see Fiberight-Waunarlwydd-RP01-Final (EMS)). Any complaints received concerning dust at the Site will be dealt with in accordance with the company`s EMS complaints procedure.

8.1.2 Any complaints about dust will be reported to the Site Manager and the Health and Safety Manager or other Technically Competent Person (with appropriate WAMITAB Certificate) who is responsible for the site management, e.g. in the absence of the Site Manager and Health and Safety Manager due to illness or annual leave etc.

8.1.3 The following actions will be taken on receipt of an external complaint:

- The responsible person receiving the complaint at the Site will immediately record the key details, initiating the investigation process. Details will be entered on the Complaint Report Form (see below). The form sets out the key information that should be recorded at this time in order to facilitate further suitable investigation.
- The Site Manager, Health and Safety Manager or Technically Competent Person will be informed of the complaint as soon as possible, including the location, time and date of the complaint being lodged.

Complaints Record	
Who made the complaint?	
Name:	
Address:	
Phone No:	
Date and time of complaint	
What caused it?	
Was anyone else aware of this? If so who	

What was the source of the problem, what went wrong? If source is unknown contact a suitably qualified person to investigate.	
What have you done to make sure it won't happen again?	
Was there any significant pollution – for example oil entering a surface water drain?	
If there was then you must notify NRW **Have you done so?** **You must also notify the local NRW Office via email or letter.**	**Yes/No/not applicable** **Date and Time:** **NRW Incident number:**
Please print name and sign:	

8.1.4 In recognising that some complaints can be transient and short-lived, timely notification of complaints directly from the complainant or NRW is imperative to allow for appropriate investigation. If the complaint occurs more than 12 hours before notification is provided to the Operator, it may not be possible to substantiate the complaint or pinpoint the cause. The Operator will, however, contact the complainant where possible, review any operations at the time which had the potential to cause the complaint and complete and record a comprehensive complaint investigation. For complaints received within 12 hours of the incident the following actions will be undertaken:

- The Site Manager, Health and Safety Manager or other Technically Competent Person will visit the complaint location as soon as possible, with the aim of undertaking monitoring within 2 hours if this is possible within the working day. The Site Manager, Health and Safety Manager or other Technically Competent Person will subjectively determine the presence or absence of the cause of the complaint. Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible.
- If the cause of complaint is present, the key 'FIDOR' criteria will be assessed at the complaint location, as follows:
    - Frequency – is the cause of the complaint, intermittent or persistent; is there a history of complaints at this location?
    - Intensity – is the cause of complaint faint, moderate, strong, or very strong?

- Duration – how long is the cause of complaint present at this location?
- Offensiveness – provide a description of the cause of complaint; is it high, moderate, or low offensiveness?
- Receptor sensitivity - is the cause of complaint present at a remote or highly sensitive location; is it localised or widespread?

8.1.5 The Site Manager, Health and Safety Manager or other Technically Competent Person will subsequently undertake the following further assessment process:

- Review of the operations at the Site prior to and at the time of the complaint;
- Review of the environmental control systems prior to and at the time of the complaint;
- Review of the previous complaint history at the location identified.

8.1.6 Where a significant complaint is substantiated by the Site Manager, Health and Safety Manager or other Technically Competent Person, the Operator will contact NRW to discuss the incident as soon as possible following receipt of the complaint details, allowing sufficient time for the above investigation to be completed, and within a maximum target response period of 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested the Operator will also contact the complainant directly to discuss the issue, the findings of the subsequent investigation, and any actions arising.

8.1.7 Once actions have been completed the Site Manager, Health and Safety Manager or other Technically Competent Person will visit the complaint location to ensure that the cause of complaint has subsided.

8.2 MITIGATION MEASURES IN THE EVENT OF A SUBSTANTIATED COMPLAINT

8.2.1 In the event of a substantiated dust complaint, the investigation undertaken by the Site Manager or Health and Safety Manager will incorporate detailed assessment of the site infrastructure and waste operations against the specific requirements of the facility dust controls set out above, to determine any diversion away from 'normal' site operating conditions.

8.2.2 Key items for consideration will be as follows:

- Material inputs – change in waste type, volume, dust characteristics;
- Mechanical breakdown – e.g. of processing plant or delays in waste handling;
- Procedural failure (human error);
- Short-term abnormal weather patterns – wind direction, temperature, inversions, etc;

- Abnormal operating conditions – temporary highly dusty activities.

8.2.3 Upon identification of the likely dust source(s), the appropriate corrective and preventative measures will be identified and implemented under the direction of the Site Manager or Health and Safety Manager. Additional support and technical expertise will be provided by internal / external technical specialists, as required.

8.2.4 Where necessary, the DEMP requirements will also be reviewed in order to ensure it continues to represent 'all appropriate measures'.

8.3 TIMESCALES

8.3.1 In the event that it proves impracticable to carry out adequate remedial measures within one working day, the Site Manager or Health and Safety Manager will notify and agree with NRW the proposed actions and the timescales for their completion as a programme of works.

9 REVIEW AND AUDIT

9.1.1 The Operator maintains a Non Conformance Register, which includes a unique reference number for any non-conformance or complaints incidents, the date of the incident, who reported the incident, a description of the incident, who investigated the incident, what were the actions or outcomes of the investigation (including any mitigation measures) and whether the incident has been addressed and closed or is still ongoing.

9.1.2 The Non Conformance Register will be reviewed each month as part of the monthly management meetings. Any complaints about amenity issues such as dust, odour or pests will be discussed and actions suggested and agreed to ensure improvements are made and the likelihood of such incidents reduces going forward.

9.1.3 The Operator will undertake an annual audit of the EMS and the Non Conformance Register (including complaints history). The purpose is to ensure the Site is:

- Continually improving;
- Minimising the risk of pollution incidents and preventing any significant impacts to sensitive receptors, including detriment to local amenity;
- Operated in accordance with the latest regulatory guidance;
- Meeting environmental objectives independent of the Environmental Permit.

9.1.4 This DEMP will also be formally reviewed at annual intervals in order to ensure the stated management controls and conditions continue to reflect best available techniques and the operational requirements/sensitivities at the Site, which may change over time.

9.1.5 An updated copy of the DEMP will be submitted to NRW following review, as required. Where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, measures will

put in place to prevent any pollution or harm.

9.1.6 If, on review of the performance of the facility, the Operator and/or NRW propose to seek revision of this plan, then the following course of action will be undertaken by both parties:

1. In potentially critical circumstances where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, these changes will be discussed with NRW without delay but may be actioned by the Operator, as necessary.

2. Where the Operator proposes changes to the DEMP that involve a more strategic and/or phased approach rather than a need for immediate implementation, a formal proposal will be submitted by the Operator to NRW setting out the specific issues arising from document review, and the options/issues requiring the Operator's further attention following NRW approval. NRW will review the Operator's submission/updated DEMP and confirm they are satisfied with the proposed changes. The agreed required changes will then form the future 'appropriate measures' for the Site with regard to dust management and control.

9.1.7 Where changes to the DEMP are proposed by NRW, these will be discussed with the Operator setting out NRW's clear expectation from the changes, in addition to timescales for their implementation. It is recognised that these changes may range from matters that require immediate implementation to those that may be implemented over an extended timeframe. In each case, the required changes will be discussed with the Operator and an appropriate action plan agreed. The Operator will (wherever possible) undertake the identified changes in accordance with the timescales proposed for the work, at which point the updated 'appropriate measures' will take effect.

10 RECORDS

10.1.1 Records will be kept in accordance with the Environmental Permit and the requirements of this DEMP.

10.1.2 Records will include:

- Details recorded during the weekly site inspections by the Health and Safety Manager;
- Copies of any completed Complaint Reporting forms (including mitigation measures), in the event of a complaint;
- Incidents of any dust issues recorded on site at any time (i.e. not just during daily and weekly inspections);
- Copy of Non Conformance Register.

11 SUMMARY

11.1.1 This Dust and Emissions Management Plan (DEMP) supports an application for a bespoke Environmental Permit for Fiberight Ltd.

11.1.2 This DEMP has been produced in accordance with Gov.uk guidance `Control and monitor emissions for your environmental permit` (published 1st February 2016 and last updated 17th May 2021) and NRW guidance 'How to comply with your environmental permit' (April 2011).

11.1.3 The DEMP has identified the potential sources of dust and particulate emissions on Site, the potential impacts and exposure levels along with measures to be implemented at the Site to mitigate against such discharges.

11.1.4 Sensitive receptors and residential properties have been identified as determined by their vulnerability to the adverse effects of exposure to elevated levels of airborne dust and particulate matter.

11.1.5 Wastes delivered comprise non-hazardous household, commercial and industrial wastes. The plant is designed to achieve high rates of recycling, typically 70% or greater. It can also recycle many non-hazardous wastes that are typically either landfilled or incinerated, thereby moving these materials up the waste hierarchy and making a significant contribution to recycling targets.

11.1.6 Wastes will be off loaded, stored and bulked up inside a fully enclosed building, fitted with vehicular access roller shutter doors at the western end of the structure. The roller shutter doors will be kept closed, except during vehicle entrance and exit from the building, e.g. during waste delivery or loading operations. Wastes will also be stored and bulked up in engineered concrete bays, which afford further protection from dust emissions.

11.1.7 All waste treatment processes will be undertaken in the building. Water is added to the drum pulper at an early stage of the treatment process, resulting is wastes being treated and processed in a damp condition, which further reduces the possibility of dust emissions.

11.1.8 The use of a 20 mph speed limit on Westfield Industrial Estate and 10mph on Site helps to minimise any fugitive emissions of dust and particulates during vehicle delivery and exit from the facility. Drop heights from the vehicles will be minimised as best practicable during unloading and loading operations.

11.1.9 Hose reels will be installed at the Site. The site entrance, external access road and operational areas will be dampened down with water during dry and dusty conditions should this be deemed necessary by the Site Manager or Health and Safety Manager.

11.1.10 On site sweeping will take place when conditions require. All areas and plant will be subjected to general housekeeping to prevent the accumulation of dust and loose material.

11.1.11 The Site Manager, Health and Safety Manager and other Technically Competent Person will be responsible for the implementation of the DEMP and the application of appropriate, recommended dust suppression measures.

11.1.12 Any complaints received concerning dust and particulate emissions at the Site will be dealt with in accordance with this DEMP and the company's EMS complaints procedure.

11.1.13 The investigation will be instigated by the Site Manager, Health and Safety Manager or other Technical Competent Person following the completion of the Complaints Report Form.

Appendix 1

Daily/ Weekly Housekeeping Duty Schedule

Daily Shift Housekeeping:

Start of Shift:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Clear any debris or leftover materials from the previous shift.							
Inspect All Mobile plant and clear any debris or residues.							
Inspect the areas for any spills, leaks, or safety hazards.							
Throughout the Shift:							
Regularly sweep or vacuum the floor to remove dust, dirt, and small debris.							
Wipe down surfaces, machinery, and equipment to remove any dirt or residues.							
Empty Tipper Skips/Bins when they become full.							
Promptly clean up any spills or leaks to prevent accidents and maintain a safe working environment.							
End of Shift:							
Return tools and equipment to their designated storage areas.							
Clear workstations of any unnecessary materials or items.							
Clear All Bunkers of Material.							
Conduct a final inspection to ensure all equipment is turned off, safety protocols are followed, and the area is tidy.							
Ensure all walkways are clear from obstructions.							

These tasks are to be carried out in a timely manner
Each task is to be initialed by the person whom completed
Supervisors to check tasks are completed to an excepted standard

If for any reason a task can not be completed, this must be raised to the Shift Superivsor

Weekly Housekeeping:

General Cleaning:	Completed
Conduct a thorough cleaning of the production area, including walls, floors, ceilings, and equipment.	
Dust and wipe down any high surfaces that may accumulate dirt or debris.	
Clean windows and other glass surfaces for better visibility.	
Equipment Maintenance:	
Schedule regular maintenance for machinery and equipment as recommended by manufacturers.	
Lubricate moving parts and perform any necessary adjustments.	
Inspect and clean ventilation systems, filters, and exhausts to maintain air quality.	
Organization:	
Review the layout and organization of the production area to ensure efficient workflow.	
Identify areas that tend to accumulate clutter and develop strategies to keep them organized.	
Inventory Check:	
Review inventory levels of cleaning supplies, safety gear, and other housekeeping materials.	
Replenish supplies as needed to avoid interruptions in cleaning routines.	
Deep Cleaning:	
Conduct a more in-depth cleaning of hard-to-reach areas, corners, and spaces that may have been overlooked during daily cleaning.	
Safety Checks:	
Inspect safety signage, emergency exits, fire extinguishers, and first aid kits to ensure they are readily accessible and in good condition.	
Training and Communication:	
Reinforce the importance of housekeeping practices among employees through regular training and reminders.	
Encourage open communication about any areas that need attention or improvement.	